

AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Clean Water Act as amended, (33 U.S.C. §§1251 et seq.; the "CWA"), and the Massachusetts Clean Waters Act, as amended, (M.G.L. Chap. 21, §§26-53),

**General Electric Company
159 Plastics Avenue
Pittsfield, MA 01201**

is authorized to discharge from the facility located at

**General Electric Company
159 Plastics Avenue
Pittsfield, MA 01201
(See also: Attachment A)**

to receiving waters named the **Housatonic River, Unkamet Brook, and Silver Lake**
(Housatonic River Watershed)

in accordance with effluent limitations, monitoring requirements and other conditions set forth herein.

This permit will become effective on **(See ** below)**

This permit and the authorization to discharge expire at midnight, five (5) years from the effective date.

This permit supersedes the permit issued on September 30, 1988 which became effective on February 7, 1992, was modified on May 21, 1992, and expired on February 7, 1997.

This permit consists of 24 pages in Part I including effluent limitations, monitoring requirements, Attachments A (list of outfalls), B (toxicity protocol), C (Best Management Practices requirements), and D (PCB method specification), and 35 pages in Part II including General Conditions and Definitions.

Signed this day of

Director
Office of Ecosystem Protection
Environmental Protection Agency
Boston, MA

Director
Division of Watershed Management
Department of Environmental Protection
Commonwealth of Massachusetts
Boston, MA

** This permit will become effective on the date of signature if no comments are received during public notice. If comments are received during public notice, this permit will become effective 60 days after signature.

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

- During the period beginning the effective date and lasting through expiration, the permittee is authorized to discharge treated effluent consisting of groundwater infiltration, city water (used for fire protection testing) and unknown dry weather flow (from the city storm drain system) from outfall serial number **001**, to Silver Lake **during dry weather**. The discharge will be limited and monitored by the permittee as specified below. Samples will be representative of the discharge and collected **during dry weather** conditions, prior to discharging into Silver Lake.

<u>Effluent Characteristic</u>	<u>Units</u>	<u>Discharge Limitation</u>			<u>Monitoring Requirement</u>	
		<u>Average Monthly</u>	<u>Average Weekly</u>	<u>Maximum Daily</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Flow* ¹ * ⁴	MGD	Report	—	Report	Continuous	Recorder
Oil and Grease	mg/l	—	—	15	1/Quarter	Grab
TSS	mg/l	—	—	Report	1/Quarter	24-Hour Composite* ⁶
pH	st. units	—	—	Report	1/Quarter	Grab
PCBs, Total * ⁹	ug/l	Report	—	Report	1/Quarter	Grab
Copper, Total Recoverable * ⁷	ug/l	Report	—	Report	1/Quarter	24-Hour Composite* ⁶

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2. During the period beginning the effective date and lasting through expiration, the permittee is authorized to discharge treated effluent consisting of groundwater infiltration, city water (used for fire protection testing) and unknown dry weather flow (from the city storm drain system) and storm water from outfall serial number **001** to Silver Lake **during wet weather**. The discharge will be limited and monitored by the permittee. Samples will be representative of the discharge and collected **during wet weather** conditions^{*2}, prior to discharging into Silver Lake.

<u>Effluent Characteristic</u>	<u>Units</u>	<u>Discharge Limitation</u>			<u>Monitoring Requirement</u>	
		<u>Average Monthly</u>	<u>Average Weekly</u>	<u>Maximum Daily</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Rainfall / Precipitation ^{*5}	inches	Report	—	Report	Per Discharge Event	Total
Flow ^{*1} ^{*4}	MGD	Report	—	Report	Continuous ^{*3}	Recorder
Oil and Grease	mg/l	—	—	15	1/Month	Grab
Oil and Grease	lb/day	—	—	319	1/Month	Grab
TSS	mg/l	—	—	Report	1/Month	Composite ^{*2}
TSS	lb/day	138	—	628	1/Month	Composite ^{*2}
pH	st. units	—	—	Report	1/Quarter	Grab
PCBs, Total ^{*9}	ug/l	Report	—	Report	1/Quarter	Grab

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A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

3. During the period beginning the effective date and lasting through expiration, the permittee is authorized to discharge effluent consisting of groundwater infiltration city water (used for fire protection testing) and unknown dry weather flow (from the city storm drain system) and storm water from outfall serial number **01A**, to Silver Lake **during wet weather**. The discharge will be limited and monitored by the permittee as specified below. Dry weather discharges are prohibited. Samples will be representative of the discharge and collected **during wet weather** conditions*², prior to discharging into Silver Lake.

<u>Effluent Characteristic</u>	<u>Units</u>	<u>Discharge Limitation</u>			<u>Monitoring Requirement</u>	
		<u>Average Monthly</u>	<u>Average Weekly</u>	<u>Maximum Daily</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Rainfall / Precipitation* ⁵	inches	Report	—	Report	Per Discharge Event	Total
Flow * ⁴	MGD	Report	—	Report	Continuous	Recorder
TSS	mg/l	—	—	Report	1/Quarter	Grab
Oil and Grease	mg/l	—	—	15	1/Quarter	Grab
pH	st. units	—	—	Report	1/Quarter	Grab
PCBs, Total * ⁹	ug/l	Report	—	Report	1/Quarter	Grab

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4. During the period beginning the effective date and lasting through expiration, the permittee is authorized to discharge storm water effluent from outfall serial number **004** to Silver Lake **during wet weather**. The discharge will be limited and monitored by the permittee as specified below. Dry weather discharges are prohibited. Samples will be representative of the discharge and collected **during wet weather** conditions^{*2}, prior to discharging into Silver Lake.

<u>Effluent Characteristic</u>	<u>Units</u>	<u>Discharge Limitation</u>			<u>Monitoring Requirement</u>	
		<u>Average Monthly</u>	<u>Average Weekly</u>	<u>Maximum Daily</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Rainfall / Precipitation ^{*5}	inches	Report	—	Report	Per Discharge Event	Total
Flow ^{*4}	MGD	Report	—	Report	Continuous	Recorder
TSS	mg/l	—	—	Report	1/Quarter	Grab
Oil and Grease	mg/l	—	—	15	1/Quarter	Grab
pH	st. units	—	—	Report	1/Quarter	Grab
PCBs, Total ^{*9}	ug/l	Report	—	Report	1/Quarter	Grab

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A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

5. During the period beginning the effective date and lasting through expiration, the permittee is authorized to discharge treated effluent from the **64G** treatment system (which discharges through the outfall serial number 005), including treated groundwater, city water (used for fire protection testing) to the Housatonic River. The discharge will be limited and monitored by the permittee as specified below. Samples will be representative of the discharge and collected at a point that includes **the final effluent from the 64G treatment system**, prior to combining with other 005 flow components.

<u>Effluent Characteristic</u>	<u>Units</u>	<u>Discharge Limitation</u>			<u>Monitoring Requirement</u>	
		<u>Average Monthly</u>	<u>Average Weekly</u>	<u>Maximum Daily</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Flow ^{*3}	MGD	Report	—	Report	Continuous	Recorder
Oil and Grease	mg/l	—	—	Report	1/Quarter	Grab
TSS	mg/l	—	—	Report	1/Quarter	24-Hour Composite ^{*6}
pH ^{*16}	st. units	(See Part I.A.footnote *16.)			1/Quarter	Grab
PCBs, total ^{*8,*10}	ug/l	0.065	—	Report	1/Month	Grab
Volatile Organic Compounds (VOCs), total ^{*15}	ug/l	—	—	Report	1/Quarter ^{*5}	Grab
Semivolatiles (SVOCs), total ^{*15}	ug/l	—	—	Report	1/Quarter ^{*5}	Grab
Whole Effluent Toxicity, LC ₅₀ ^{*11}	%	—	—	Report	1/Quarter ^{*13,*14}	24-Hour Composite ^{*6}
Whole Effluent Toxicity, IC ₂₅ and C-NOEC ^{*12}	%	—	—	Report	1/Quarter ^{*13,*14}	24-Hour Composite ^{*6}

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6. During the period beginning the effective date and lasting through expiration, the permittee is authorized to discharge treated effluent from outfall serial number **005**, including treated groundwater from the 64G treatment plant, groundwater (infiltration), city water (used for fire protection testing) and storm water to the Housatonic River. The discharge will be limited and monitored by the permittee as specified below. Samples will be representative of the discharge and collected **during wet weather** conditions^{*2}, prior to discharging into the Housatonic River, at a point located at the end of the 005 discharge pipe.

<u>Effluent Characteristic</u>	<u>Units</u>	<u>Discharge Limitation</u>			<u>Monitoring Requirement</u>	
		<u>Average Monthly</u>	<u>Average Weekly</u>	<u>Maximum Daily</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Rainfall / Precipitation ^{*5}	inches	Report	—	Report	Per Discharge Event	Total
Flow ^{*4}	MGD	Report	—	Report	Continuous	Recorder
Oil and Grease	mg/l	—	—	15	1/Month	Grab
Oil and Grease	lbs/day	—	—	135	1/Month	Grab
TSS	mg/l	—	—	Report	1/Month	Composite ^{*2}
TSS	lbs/day	188	—	270	1/Month	Composite ^{*2}
pH	st. units	—	—	Report	1/Quarter	Grab
PCBs, total ^{*9}	ug/l	Report	—	Report	1/Month	Composite ^{*2}
PCBs, total ^{*9}	lbs/day	0.01	—	0.03	1/Month	Composite ^{*2}

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7. During the period beginning the effective date and lasting through expiration, the permittee is authorized to discharge treated and untreated effluent through outfall serial number **05A** (an overflow from the 005 drainage system), groundwater (infiltration), city water (used for fire protection testing) and storm water to the Housatonic River **during wet weather**. The discharge will be limited and monitored by the permittee as specified below. Dry weather discharges are prohibited. Samples will be representative of the discharge and collected **during wet weather** conditions^{*2}, prior to discharging into the Housatonic River.

<u>Effluent Characteristic</u>	<u>Units</u>	<u>Discharge Limitation</u>			<u>Monitoring Requirement</u>	
		<u>Average Monthly</u>	<u>Average Weekly</u>	<u>Maximum Daily</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Rainfall / Precipitation ^{*5}	inches	Report	—	Report	Per Discharge Event	Total
Flow ^{*4}	MGD	Report	—	Report	Continuous	Recorder
Oil and Grease	mg/l	—	—	15	1/Quarter	Grab
TSS	mg/l	—	—	Report	1/Quarter	Grab
pH	st. units	—	—	Report	1/Quarter	Grab
PCBs, Total ^{*9}	ug/l	Report	—	Report	1/Quarter	Grab

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8. During the period beginning the effective date and lasting through expiration, the permittee is authorized to discharge effluent through outfall serial numbers **05B**, **SR02**, **SR03** and **SR04** (overflows from the 005 drainage system), including groundwater infiltration and city water (used for fire protection testing) and storm water to the Housatonic River during wet weather. The discharge will be limited and monitored by the permittee as specified below. Dry weather discharges are prohibited. Samples will be representative of the discharge and collected **during wet weather** conditions*², prior to discharging into the Housatonic River, at a point that includes all flow components.

<u>Effluent Characteristic</u>	<u>Units</u>	<u>Discharge Limitation</u>			<u>Monitoring Requirement</u>	
		<u>Average Monthly</u>	<u>Average Weekly</u>	<u>Maximum Daily</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Rainfall / Precipitation* ⁵	inches	Report	—	Report	Per Discharge Event	Total
Flow (SR02, SR03, SR04)* ⁴	MGD	Report	—	Report	Per Discharge Event* ²	Estimate
Flow (05B)* ⁴	MGD	Report	—	Report	Continuous	Recorder
Oil and Grease (SRO4, 05B)	mg/l	—	—	15**	1/Quarter	Grab
TSS (SRO4, 05B)	mg/l	—	—	Report	1/Quarter	Grab
pH (SRO4, 05B)	st. units	—	—	Report	1/Quarter	Grab
PCBs, Total * ⁹ (SRO4, 05B)	ug/l	Report	—	Report	1/Quarter	Grab

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** Limit applies to outfall 05B only, report for SRO4.

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9. During the period beginning the effective date and lasting through expiration, the permittee is authorized to discharge treated effluent through outfall serial number **006**, including groundwater infiltration, city water (used for fire protection testing) and storm water to the Housatonic River **during wet weather**. The discharge will be limited and monitored by the permittee as specified below. Dry weather discharges are prohibited. Samples will be representative of the discharge and collected **during wet weather** conditions*², prior to discharging into the Housatonic River.

<u>Effluent Characteristic</u>	<u>Units</u>	<u>Discharge Limitation</u>			<u>Monitoring Requirement</u>	
		<u>Average Monthly</u>	<u>Average Weekly</u>	<u>Maximum Daily</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Rainfall / Precipitation* ⁵	inches	Report		Report	Per Discharge Event	Total
Flow * ⁴	MGD	Report	—	Report	Continuous	Recorder
Oil and Grease	mg/l	—	—	15	1/Quarter	Grab
TSS	mg/l	—	—	Report	1/Quarter	Grab
pH	st. units	—	—	Report	1/Quarter	Grab
PCBs, Total * ⁹	ug/l	Report	—	Report	1/Quarter	Grab

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10. During the period beginning the effective date and lasting through expiration, the permittee is authorized to discharge effluent from outfalls serial numbers **06A** and **SR05**, (overflows from the 006 drainage system) to the Housatonic River during wet weather. The discharges will be limited and monitored by the permittee as specified below. Dry weather discharges are prohibited. Samples will be representative of the discharge and collected **during wet weather** conditions*², prior to discharging into the Housatonic River.

<u>Effluent Characteristic</u>	<u>Outfall</u>	<u>Units</u>	<u>Discharge Limitation</u>			<u>Monitoring Requirement</u>	
			<u>Average Monthly</u>	<u>Average Weekly</u>	<u>Maximum Daily</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Rainfall / Precipitation* ⁵	06A, SR05	inches	Report	—	Report	Per Discharge Event	Total
Flow * ⁴	SR05	MGD	Report	—	Report	Per Discharge Event	Estimate
Flow * ⁴	06A	MGD	Report	—	Report	Continuous	Recorder
Oil and Grease	06A	mg/l	—	—	15	1/Quarter	Grab
TSS	06A	mg/l	—	—	Report	1/Quarter	Grab
pH	06A	st. units	—	—	Report	1/Quarter	Grab
PCBs, Total * ⁹	06A	ug/l	Report	—	Report	1/Quarter	Grab

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A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

11. During the period beginning the effective date and lasting through expiration, the permittee is authorized to discharge storm water effluent from outfall serial number **007** to the Housatonic River during wet weather. The discharge will be limited and monitored by the permittee as specified below. Dry weather discharges are prohibited. Samples will be representative of the discharge and collected **during wet weather** conditions^{*2}, prior to discharging into the Housatonic River.

<u>Effluent Characteristic</u>	<u>Units</u>	<u>Discharge Limitation</u>			<u>Monitoring Requirement</u>	
		<u>Average Monthly</u>	<u>Average Weekly</u>	<u>Maximum Daily</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Rainfall / Precipitation ^{*5}	inches	Report	—	Report	Per Discharge Event	Total
Flow ^{*4}	MGD	Report	—	Report	Continuous	Recorder
TSS	mg/l	—	—	Report	1/Quarter	Grab
Oil and Grease	mg/l	—	—	Report	1/Quarter	Grab
pH	st. units	—	—	Report	1/Quarter	Grab
PCBs, Total ^{*9}	ug/l	Report	—	Report	1/Quarter	Grab

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12. During the period beginning the effective date and lasting through expiration, the permittee is authorized to discharge treated effluent from internal outfall **09B** (discharge from oil/water separator 119W), which discharges through outfall serial number **009** to Unkamet Brook. The discharge includes city water (used for fire protection testing), ground water infiltration, and storm water. The discharge will be limited and monitored by the permittee as specified below. Samples will be representative of the discharge and collected **during wet weather** conditions*².

<u>Effluent Characteristic</u>	<u>Units</u>	<u>Discharge Limitation</u>			<u>Monitoring Requirement</u>	
		<u>Average Monthly</u>	<u>Average Weekly</u>	<u>Maximum Daily</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Rainfall / Precipitation* ⁵	inches	Report	—	Report	Per Discharge Event	Total
Flow * ⁴	MGD	Report	—	Report	Continuous	Recorder
Oil and Grease	mg/l	—	—	Report	1/Month	Grab
Oil and Grease	lb/day	—	—	Report	1/Month	Grab
TSS	mg/l	—	—	Report	1/Month	Composite* ²
TSS	lb/day	Report	—	Report	1/Month	Composite* ²
pH	st. units	—	—	Report	1/Quarter	Grab
PCBs, Total * ⁹	ug/l	Report	—	Report	1/Quarter	Grab

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13. During the period beginning the effective date and lasting through expiration, the permittee is authorized to discharge treated and untreated effluent from outfall serial number **009**, including city water (used for fire protection testing), ground water infiltration, and storm water to Unkamet Brook during wet weather. The discharge will be limited and monitored by the permittee as specified below. Samples will be representative of the discharge and collected **during wet weather** conditions*² at sampling point 009 (the combined discharges from OWS 119W and flow bypassed around OWS 119W), prior to discharging into Unkamet Brook.

<u>Effluent Characteristic</u>	<u>Units</u>	<u>Discharge Limitation</u>			<u>Monitoring Requirement</u>	
		<u>Average Monthly</u>	<u>Average Weekly</u>	<u>Maximum Daily</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Rainfall / Precipitation* ⁵	inches	Report	—	Report	Per Discharge Event	Total
Flow * ⁴	MGD	Report	—	Report	Continuous	Recorder
Oil and Grease	mg/l	—	—	15	1/Month	Grab
Oil and Grease	lb/day	—	—	438	1/Month	Grab
TSS	mg/l	—	—	Report	1/Month	Composite* ²
TSS	lb/day	213	—	876	1/Month	Composite* ²
pH	st. units	—	—	Report	1/Quarter	Grab
PCBs, Total * ⁹	ug/l	Report	—	Report	1/Quarter	Grab

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Footnotes:

- *1. For purposes of reporting flow for outfall 001, wet weather is defined as any day on which more than 0.1 inches of total precipitation falls or on which snow melt occurs. The flow on any calendar day meeting the above criteria shall be reported as wet weather flow; the flow on other days shall be reported as dry weather flow.
- *2. For purposes of sampling, wet weather is defined as a storm event with at least 0.1 inch of precipitation, providing the interval from the preceding measurable storm is at least 72 hours. The 72-hour storm interval is waived when the preceding measurable storm did not yield a measurable discharge, or if you are able to document that less than a 72-hour interval is representative for local storm events during the sampling period. The permittee will collect a grab sample within the first 30 minutes of the discharge, and a flow weighted composite for each hour up to three hours when a composite sample is required. If it is not practicable to take the sample during the first 30 minutes, the permittee will sample during the first hour of discharge and describe why collecting a grab sample during the first 30 minutes was impracticable. The permittee will submit this information on or with the discharge monitoring report.
- *3. Report the average monthly and maximum daily flow.
- *4. Report the average monthly and maximum daily flow. Average monthly wet weather flow is defined as the average flow per discharge event .
- *5. The permittee will report rainfall weather data using a rain gauge that is maintained on site when the air temperature is above freezing, and will report the National Weather Service data for Pittsfield, MA when the air temperature is below freezing per discharge event. The permittee will report the intensity, duration, and volume of each precipitation event during, and for the three (3) days prior to, each sampling event.
- *6. A 24-hour composite sample will consist of at least twenty four (24) grab samples taken during one working day (e.g., 7 am. Monday - 7 am. Tuesday). For intermittent discharges, the number of hourly grab samples may be reduced to correspond to the period of discharge.
- *7. The minimum detection level (ML) for copper is defined as 3.0 ug/l. This value is the minimum detection level for copper using the Furnace Atomic Absorption analytical method. Sample results of 3.0 ug/l or less will be reported as zero on the discharge monitoring report.

If after one year of sampling the permittee believes that the data demonstrates that there is no reasonable potential for the discharge of copper to cause or contribute to a violation of water quality standards, the permittee may submit a request to eliminate the copper monitoring requirement. Elimination of the monitoring requirement will not become effective until EPA approves the request in a certified letter to the permittee.

- *8. The total PCB compliance limit for this discharge is set at 0.065 ug/l, and the minimum level (ML) is defined as 0.065 ug/l. The permittee will: (1) use Modified Method 8082, attached to this permit as **Attachment D**, (2) meet all the specifications within **Attachment D**, (3) make every effort to achieve a minimum detection level (MDL) of 0.014 ug/l using Modified Method 8082, and (4) provide the result of total PCBs as the sum of all Aroclors. Sample results less

than 0.065 ug/l shall be reported as zero on the discharge monitoring report; numerical results of all samples, including results less than the ML shall be reported in an attachment to the discharge monitoring report (DMR).

- *9. The total PCB minimum level (ML) for total PCBs is defined as 0.5 ug/l. The permittee will: (1) use Method 8082, attached to this permit as **Attachment D**, (2) meet all the specifications within **Attachment D**, (3) make every effort to achieve a minimum detection level (MDL) of 0.065 ug/l using Method 8082, and (4) will provide the result of total PCBs as the sum of all Aroclors. Sample results less than 0.5 ug/l shall be reported as zero on the discharge monitoring report; numerical results of all samples, including results less than the ML shall be reported in an attachment to the discharge monitoring report (DMR).
- *10. Interim limits and a schedule for attaining the final compliance limit (0.065 ug/l) may be found in Section D of this permit.
- *11. The LC_{50} is the concentration of effluent which causes mortality to 50% of the test organisms. Therefore, a 100% limit means that a sample of 100% effluent (no dilution) will cause no more than a 50% mortality rate.
- *12. C-NOEC (chronic-no observed effect concentration) and the IC_{25} concentrations are defined as the highest concentration of toxicant or effluent to which organisms are exposed in a life cycle or partial life cycle test which causes no adverse effect on growth, survival, or reproduction at a specific time of observation as determined from hypothesis testing where the test results exhibit a linear dose-response relationship. However, where the test results exhibit a non linear dose-response relationship, the permittee must report the lowest concentration where there is no observable effect.
- *13. The permittee will: (1) conduct chronic (and modified acute) toxicity tests quarterly, (2) test the daphnid, Ceriodaphnia dubia in accordance to the schedule in the table below, (3) calculate the percent minimum significant difference (PMSD) as defined within the 2002 EPA National Toxicity Guidance Document (i.e., a measurement of the test's sensitivity), (4) calculate and report both the IC_{25} and C-NOEC endpoints, and (5) select and report as the final test endpoint that which most closely represents the appropriate test result based on the interpretation of the dose response curve (refer to EPA 821-B-00-004, July 2000, Method Guidance and Recommendations for Whole Effluent Toxicity(WET) Testing (40 CFR Part 136)). The tests must be performed in accordance with test procedures and protocols specified in **Attachment B** of this permit.

Test Dates: Second Week in	Submit Results By:	Test Species:	Acute Limit: LC_{50}	Chronic Limit: C-NOEC and IC_{25}
March June September December	April 30 th July 31 st October 31 st January 31 st	<u>Ceriodaphnia dubia</u> (Daphnid)	Report	Report

- *14. If toxicity test(s) using receiving water as diluent show the receiving water to be toxic or unreliable, the permittee will follow procedures outlined in **Attachment B** Section IV., DILUTION WATER in order to obtain permission to use an alternate dilution water. In lieu of individual approvals for alternate dilution water required in **Attachment B**, EPA-New England has developed a Self-Implementing Alternative Dilution Water Guidance document (called “Guidance Document”) which may be used to obtain approval of an alternate dilution water, including the appropriate species for use with that water. If this Guidance document is revoked, the permittee will revert to obtaining approval as outlined in **Attachment B**. The “Guidance Document” has been sent to all permittees with their annual set of DMRs and Revised Updated Instructions for Completing EPA’s Pre-Printed NPDES Discharge Monitoring Report (DMR) Form 3320-1 and is not intended as a direct attachment to this permit. Any modification or revocation to this “Guidance Document” will be transmitted to the permittee as part of the annual DMR instruction package. However, at any time, the permittee may choose to contact EPA-New England directly using the approach outlined in **Attachment B**.
- *15. Report all volatile organic compounds and semivolatile organic compounds detected using EPA Method 624 and attach the results to the discharge monthly reports.
- *16. The pH of the effluent will not be less than 6.5 nor greater than 9.0 at any time, unless these values are exceeded due to natural causes.

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14. During the period beginning the effective date and lasting through expiration, the permittee is authorized to discharge storm water from the following outfall serial numbers: YD3, (discharge to Silver Lake), YD10, YD11, YD12, and OF-P1 (discharges to Unkamet Brook), YD4, YD5, YD6, YD7, YD8, YD9, YD13, YD15, YD16, OF-T2, and OF-T3 (discharges to the Housatonic River). Discharges during dry weather are prohibited.

The following four requirements (Part I.A.15. - 19.) apply to all discharges at this site:

15. The discharge will not cause objectionable discoloration of the receiving waters.
 16. The effluent will contain neither a visible oil sheen, foam, nor floating solids at any time.
 17. The permittee will demonstrate adequate laboratory controls and appropriate quality assurance procedures, in accordance with 40 C.F.R. § 122.41(e).
 18. All samples and measurements taken for the purpose of monitoring will be representative of the monitored activity, in accordance with 40 C.F.R. § 122.41(j).
 19. The discharge will not cause or contribute to an exceedance of the instream temperature requirements under 314 CMR 4.05(3)(b)2. of the MA Water Quality Standards.
20. All existing manufacturing, commercial, mining, and silvaculture dischargers must notify the Director as soon as they know or have reason to believe:
 - a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following “notification levels.”
 - (1) One hundred micrograms per liter (100 ug/l);
 - (2) Two hundred micrograms per liter (200 ug/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/l) for 2, 4-dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;
 - (3) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR Part 122.21(g)(7); or
 - (4) The level established by the Director in accordance with 40 C.F.R. Part 122.44(f).
 - b. That activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following “notification levels.”
 - (1) Five hundred micrograms per liter (500 ug/l);

- (2) One milligram per liter (mg/l) for antimony;
 - (3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR Part 122.21(g)(7).
 - (4) The level established by the Director in accordance with 40 CFR Part 122.44(f).
- c. That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant which was not reported in the permit application.
21. Adding chemicals, including cooling water additives, to any of the discharges at this facility is prohibited.
22. This permit may be modified, or revoked and reissued, on the basis of new information in accordance with 40 CFR §122.62.
23. Toxics Control
- a. The permittee will not discharge any pollutant or combination of pollutants in toxic amounts.
 - b. Any toxic components of the effluent will not result in any demonstrable harm to aquatic life or violate any state or federal water quality standard which has been or may be promulgated. Upon promulgation of any such standard, this permit may be revised or amended in accordance with such standards.
24. Numerical Effluent Limitations for Toxicants
- EPA or the MADEP may use the results of the toxicity tests and chemical analysis conducted pursuant to this permit, as well as national water quality criteria developed pursuant to Section 304(a)(1) of the Clean Water Act (CWA), state water quality criteria, and any other appropriate information or data, to develop numerical effluent limitations for any pollutants, including but not limited to those pollutants listed in Appendix D of 40 CFR Part 122.
25. Floor Drains
- Within ninety (90) days** of the effective date of the permit, the permittee must: (1) verify the location of each floor drain at active operations buildings at the GE Pittsfield site (i.e., Building 100), and (2) permanently remove or seal those floor drains within the building that do not directly discharge to the sewer system. **Within one hundred and eighty (180) days** of the effective date of the permit, the permittee must: (1) verify the location of each floor drain at inactive operations buildings at the GE Pittsfield site that are not otherwise scheduled for demolition under the Brownfields Program (i.e., Buildings 7, 9, 9B, 10, 12, 12T, 14, 52, 53, 64, 78, 106, 107, 108, 109, 110, 111, 112, 114, 115, 119, 121), and (2) permanently remove or seal those floor drains within each of these buildings that do not directly discharge to the sewer system. Office buildings are not subject to the terms of this requirement. In addition, other buildings scheduled for future demolition under the Brownfields Program are not subject to the

terms of this requirement.

B. UNAUTHORIZED DISCHARGES

The permittee is authorized to discharge only in accordance with the terms and conditions of this permit and only from the outfalls listed in **Attachment A** of this permit. Discharges of wastewater from any other point sources are not authorized by this permit and will be reported in accordance with Part II. Section D.1.e.(1) of the General Requirements of this permit (Twenty-four hour reporting).

C. BEST MANAGEMENT PRACTICES

1. The permittee must implement the Best Management Practices (BMP) requirements upon the effective date of the permit, which include: (1) BMPs described in **Attachment C**, and (2) the Storm Water Pollution Prevention Plan (SWPPP) described below. When the permit becomes effective, all of the BMP requirements will be as enforceable as any effluent limits in the permit.
2. The permittee must maintain and implement a storm water pollution prevention plan (SWPPP) for storm water runoff areas discharging to point sources authorized by this permit. The permittee's storm water discharges are subject to the best management practices established in the permittee's Storm Water Pollution Prevention Plan (SWPPP) and as described in **Attachment C**. The permittee must submit an updated SWPPP to EPA and the MADEP **within 6 (six) months** of the effective date of this permit. The updated SWPPP must be implemented **within 60 (sixty) days** of the submittal date, along with any modifications that are agreed upon by EPA, MADEP and GE.
 - a. The contents of the SWPPP must meet all of the requirements of Section 4 of the Storm Water Multi-Sector Permit for Industrial Activities.
 - b. The permittee must include within their SWPPP, a plan for sampling all of the storm water discharges listed under Part I.A.14. of this permit **once during the second year and once during the fifth year of this permit** in order to provide the following effluent data: flow, PCBs (using Method 8082), and zinc.
3. The permittee must attach all BMP sampling results to their monthly discharge monitoring reports (includes "**Attachment C**" and **SWPPP** requirements.)
4. By **March 1 of each year**, the permittee must submit a report to MADEP and EPA summarizing the activities conducted under the BMP and SWPPP during the previous year, including the submittal of any storm water sampling performed during the year which was not previously submitted.

D. COMPLIANCE SCHEDULE

1. PCB Limits and Capability Study

From the effective date of the permit until completion of the 64G PCB treatment capability study, the PCB interim compliance limit for the 64G effluent discharge shall be a monthly average total PCBs concentration of 0.15 ug/l. Total PCBs will be measured using the Modified

Method 8082 (protocol attached to the permit as “**Attachment D**”), with a minimum reporting level of approximately 0.014 ug/l.

Within 9 months following the effective date of the permit, GE shall complete a PCB treatment capability study of the 64G treatment system which will evaluate whether the existing facility is capable of achieving a monthly average limit of 0.065 ug/l. If the finding of the study is that the existing 64G treatment plant cannot achieve the limit, the study shall include a plan and schedule for achieving the limit as expeditiously as possible.

Following completion of the 64G PCB treatment capability study, the discharge limit will be established as follows:

- If the 64G treatment facility demonstrates a 100% compliance capability with a monthly average limit of 0.065 ug/l, the deadline for attaining the monthly average total PCB limit of 0.065 ug/l shall be **30 days** after the submittal of the capability report**. Compliance capability will be determined using EPA’s modified delta log normal method.
- If the 64G treatment facility does not demonstrate a 100% compliance capability with a monthly average limit of 0.065 ug/l, then the interim compliance limit will remain at 0.15 ug/l until GE upgrades the 64G facility to achieve a final total PCB compliance limit of 0.065 ug/l. The upgrade shall be completed in accordance with the schedule proposed in the treatment capability study report unless EPA and the MADEP determine that an alternate schedule will allow GE sufficient time to complete the facility upgrade. GE must comply with the 0.065 ug/l limit **30 days** after the date required to complete the upgrade.

** If subsequent actions undertaken by GE to meet groundwater or NAPL- related Performance Standards, or other requirements, of the Consent Decree require a significant increase in the 64G treatment plant flow rates above the flow rates that occurred during the 64G treatment plant capability study, and if EPA’s On-Scene Coordinator concurs that the increased flows are from such Consent Decree work, then GE must meet an interim compliance limit of 0.15 ug/l for the period during which such increased flow rates are necessary. GE must comply with the interim limit during the period of increased flows, and shall endeavor to achieve a goal of a monthly PCB concentration of 0.065 ug/l. At the end of the period of increased flows, the final limit of 0.065 ug/l shall again apply.

2. Optimization Study and Improvements

Following completion of the 64G PCB treatment capability study and establishment of the final PCB discharge limit of 0.065 ug/l (as described in item 1 of this section), GE shall commence a PCB treatment optimization study of the 64G treatment system. The optimization study shall evaluate enhancements with the goal of meeting a monthly average total PCB concentration of 0.014 ug/l.

This study shall evaluate the cost and effectiveness of enhancement alternatives including;

- Operational adjustments to the existing treatment plant, including increased frequency of

- activated carbon replacement.
- Additional or different activated carbon columns.
- Enhance treatment prior to activated carbon columns.
- Filtration following activated carbon columns.

Within 18 months of the effective date of the permit, or 9 months after the date on which GE completes any 64G treatment capability enhancements necessary to achieve a total PCB limit of 0.065 ug/l (as described in item 1 of this section), whichever is later, GE shall report the results of the optimization study to EPA and MADEP. The report shall document the findings of the study and provide recommended enhancement alternative(s) and an implementation schedule, specifying the capital costs for, and the estimated reduction in PCBs that would be achieved by, those enhancements. GE shall implement the recommended enhancements. Also, GE shall implement any additional enhancements that are agreed upon by EPA, MADEP and GE.

E. MONITORING AND REPORTING

1. Reporting

Monitoring results obtained during each calendar month will be summarized and reported on Discharge Monitoring Report Form(s) postmarked no later than the **28th day of the following month**.

Signed and dated originals of these, and all other reports required herein, will be submitted to the Director and the State at the following addresses:

Environmental Protection Agency
Water Technical Unit (SEW)
P.O. Box 8127
Boston, Massachusetts 02114

The State Agency is:

Massachusetts Department of Environmental Protection
Western Regional Office - Bureau of Resource Protection
436 Dwight Street
Springfield, MA 01103

Signed and dated Discharge Monitoring Report Forms and toxicity test reports required by this permit will also be submitted to the State at:

Massachusetts Department of Environmental Protection
Division of Watershed Management
Surface Water Discharge Permit Program
627 Main Street, 2nd Floor
Worcester, Massachusetts 01608

F. STATE PERMIT CONDITIONS

This Discharge Permit is issued jointly by the U. S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (DEP) under Federal and State law, respectively. As such, all the terms and conditions of this permit are hereby incorporated into and constitute a discharge permit issued by the Commissioner of the MA DEP pursuant to M.G.L. Chap.21, §43.

Each Agency will have the independent right to enforce the terms and conditions of this Permit. Any modification, suspension or revocation of this Permit will be effective only with respect to the Agency taking such action, and will not affect the validity or status of this Permit as issued by the other Agency, unless and until each Agency has concurred in writing with such modification, suspension or revocation. In the event any portion of this Permit is declared, invalid, illegal or otherwise issued in violation of State law such permit will remain in full force and effect under Federal law as an NPDES Permit issued by the U.S. Environmental Protection Agency. In the event this Permit is declared invalid, illegal or otherwise issued in violation of Federal law, this Permit will remain in full force and effect under State law as a Permit issued by the Commonwealth of Massachusetts.

Attachment A
Discharge Outfalls
NPDES Permit No. MA0003891
General Electric Company
Pittsfield, MA

<u>Outfall:</u>	<u>Description of Discharge:</u>	<u>Location (Latitude/Longitude):</u>	<u>Receiving Water:</u>
001	wet and dry weather discharge including groundwater (infiltration), city water (used for fire protection testing) unknown dry weather flow from city storm drain system and storm water	42 27' 09" / 73 14' 16"	Silver Lake
01A	overflow from 001 drainage system - wet weather discharge including groundwater (infiltration), city water (used for fire protection testing), unknown dry weather flow from city storm drain system and storm water	42 27' 10" / 73 14' 18"	Silver Lake
004	wet weather discharge of storm water	—	Silver Lake
005	wet and dry weather discharge of treated groundwater, OPCA leachate and EPA-approved waters (64G) , city water (used for fire protection testing), and storm water.	42 26' 59" / 73 13' 53"	Housatonic River
05A	overflow from outfall 005 drainage system: wet weather discharge of groundwater (infiltration), city water (used for fire protection testing), and storm water	42 26' 59" / 73 13' 53"	Housatonic River
05B	overflow from outfall 005 drainage system: wet weather discharge of groundwater (infiltration), city water (used for fire protection testing), and storm water	42 26' 59" / 73 13' 53"	Housatonic River
SRO2 SRO3 SRO4	overflows from 005 drainage system: wet weather discharge of storm water	—	Housatonic River

Attachment A
Discharge Outfalls
NPDES Permit No. MA0003891
General Electric Company
Pittsfield, MA

<u>Outfall:</u>	<u>Description of Discharge:</u>	<u>Location (Latitude/Longitude):</u>	<u>Receiving Water:</u>
006	wet weather discharge of groundwater (infiltration), city water (used for fire protection testing) and storm water	42 27' 04" / 73 13' 44"	Housatonic River
06A	overflow from 006 drainage area: wet weather discharge of city water (used for fire protection testing), unknown dry weather flow from city storm drain, and storm water	42 27' 04" / 73 13' 44"	Housatonic River
SRO5	overflow from 006 drainage area: wet weather discharge of city water (used for fire protection testing), unknown dry weather flow from city storm drain, and storm water	—	Housatonic River
007	wet weather discharge of storm water	—	Housatonic River
009	wet weather discharge of ground water (infiltration), city water (used for fire protection testing) and storm water	42 27' 42" / 73 12' 30"	Unkamet Brook
YD3	storm water	—	Silver Lake
YD10, YD11, YD12, OF-P1	storm water storm water	— —	Unkamet Brook Unkamet Brook
YD4, YD5,	storm water	—	Housatonic River
YD6, YD7,	storm water	—	Housatonic River
YD8, YD9,	storm water	—	Housatonic River
YD13, YD14	storm water	—	Housatonic River
YD15, YD16	storm water	—	Housatonic River
OF-T2, OF-T3	storm water	—	Housatonic River

ATTACHMENT B

FRESHWATER CHRONIC and MODIFIED ACUTE TOXICITY TEST PROCEDURE AND PROTOCOL

I. GENERAL REQUIREMENTS

The permittee shall conduct acceptable chronic (**and modified acute**) toxicity tests on three samples collected during the test period. The following tests shall be performed in accordance with the appropriate test protocols described below:

- **Daphnid (Ceriodaphnia dubia) Survival and Reproduction Test.**
- **Fathead Minnow (Pimephales promelas) Larval Growth and Survival Test.**

Chronic and acute toxicity data shall be reported as outlined in Section VIII. The chronic fathead minnow and daphnid tests can be used to calculate an LC50 at the end of 48 hours of exposure when both an acute (LC50) and a chronic (C-NOEC) test is specified in the permit.

II. METHODS

Methods to follow are those recommended by EPA in:

Lewis, P.A. et al. Short Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms, Third Edition. Environmental Monitoring Systems Laboratory, U.S. Environmental Protection Agency, Cincinnati, OH. July 1994, EPA/600/4-91/002.

Any exceptions are stated herein.

III. SAMPLE COLLECTION

For each sampling event, three discharge samples shall be collected. Fresh samples are necessary for Days 1, 3, and 5 (see Section V. for holding times). The initial sample is used to start the test on Day 1, and for test solution renewal on Day 2. The second sample is collected for use at the start of Day 3, and for renewal on Day 4. The third sample is used for renewal on Days 5, 6, and 7 (or until termination for the Ceriodaphnia dubia test). The initial (Day 1) sample will be analyzed chemically (see Section VI). Day 3 and 5 samples will be held until test completion. If either the Day 3 or 5 renewal sample is of sufficient potency to cause lethality to 50 percent or more test organisms in any of the dilutions for either species, then a chemical analysis shall be performed on the appropriate sample(s) as well.

Aliquots shall be split from the samples, containerized and preserved (as per 40 CFR Part 136) for chemical and physical analyses. The remaining samples shall be measured for total residual chlorine and dechlorinated (if detected) in the laboratory using sodium thiosulfate for subsequent toxicity testing. (Note that EPA approved test methods require that samples collected for metals analyses be preserved immediately after collection.) Grab samples must be used for pH, temperature, and total residual chlorine (as per 40 CFR Part 122.21).

Standard Methods for the Examination of Water and Wastewater also describes dechlorination of samples (APHA, 1992). Dechlorination can be achieved using a ratio of 6.7 mg/L anhydrous

sodium thiosulfate to reduce 1 mg/L chlorine. A thiosulfate control (maximum amount of thiosulfate in lab control or receiving water) should also be run.

All samples held overnight shall be refrigerated at 4°C.

IV. DILUTION WATER

Grab samples of dilution water used for chronic toxicity testing shall be collected from the receiving water at a point upstream of the discharge free from toxicity or other sources of contamination. Avoid collecting near areas of obvious road or agricultural runoff, storm sewers or other point source discharges. An additional control (0% effluent) of a standard laboratory water of known quality shall also be tested.

If the receiving water diluent is found to be, or suspected to be toxic or unreliable, an alternate standard dilution water of known quality with a hardness, pH, conductivity, alkalinity, organic carbon, and total suspended solids similar to that of the receiving water may be substituted **AFTER RECEIVING WRITTEN APPROVAL FROM THE PERMIT ISSUING AGENCY(S)**. Written requests for use of an alternate dilution water should be mailed with supporting documentation to the following address:

Director
Office of Ecosystem Protection
U.S. Environmental Protection Agency-New England
One Congress Street-Suite 1100 (CAA)
Boston, MA 02114-2023

It may prove beneficial to have the dilution water source screened for suitability prior to toxicity testing. EPA strongly urges that screening be done prior to set up of a full definitive toxicity test any time there is question about the dilution water's ability to support acceptable performance as outlined in the 'test acceptability' section of the protocol. See Section 7 of EPA/600/4-89/001 for further information.

V. TEST CONDITIONS AND TEST ACCEPTABILITY CRITERIA

EPA New England requires that fathead minnow tests be performed using four (not three) replicates of each control and effluent concentration because the non-parametric statistical tests cannot be used with data from only three replicates. Also, if a reference toxicant test was being performed concurrently with an effluent or receiving water test and fails, both tests must be repeated.

The following tables summarize the accepted daphnid and fathead minnow toxicity test conditions and test acceptability criteria:

**EPA NEW ENGLAND RECOMMENDED EFFLUENT TOXICITY TEST CONDITIONS
FOR THE DAPHNID, CERIODAPHNIA DUBIA, SURVIVAL AND REPRODUCTION
TEST¹**

1.	Test type:	Static, renewal
2.	Temperature (°C):	25 ± 1°C
3.	Light quality:	Ambient laboratory illumination
4.	Photoperiod:	16 hr. light, 8 hr. dark
5.	Test chamber size:	30 mL
6.	Test solution volume:	15 mL
7.	Renewal of test solutions:	Daily using most recently collected sample
8.	Age of test organisms:	Less than 24 hr.; and all released within an 8 hr. period of each other.
9.	Number of neonates per test chamber:	1
10.	Number of replicate test chambers per treatment:	10
11.	Number of neonates per test concentration:	10
12.	Feeding regime:	Feed 0.1 ml each of YCT and concentrated algal suspension per exposure chamber daily.
13.	Aeration:	None

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|---|--|
| 14. Dilution water: ² | Receiving water, other surface water, synthetic soft water adjusted to the hardness and alkalinity of the receiving water (prepared using either Millipore Milli-Q ^R or equivalent deionized water and reagent grade chemicals according to EPA chronic toxicity test manual) or deionized water combined with mineral water to appropriate hardness. |
| 15. Effluent concentrations: ³ | 5 effluent concentrations and a control. An additional dilution at the permitted effluent concentration (% effluent) is required if it is not included in the dilution series. |
| 16. Dilution factor: | ≥ 0.5 |
| 17. Test duration: | Until 60% of control females have three broods (generally 7 days and a maximum of 8 days). |
| 18. End points: | Survival and reproduction |
| 19. Test acceptability: | 80% or greater survival and an average of 15 or more young/surviving female in the control solutions. At least 60% of surviving females in controls must produce three broods. |
| 20. Sampling requirements: | For on-site tests, samples are collected daily and used within 24 hr. of the time they are removed from the sampling device. For off-site tests a minimum of three samples are collected (i.e. days 1, 3, 5) and used for renewal (see Sec. III). Off-site tests samples must be first used within 36 hours of collection. |
| 21. Sample volume required: | Minimum 1 liter/day |

Footnotes:

1. Adapted from EPA/600/4-91/002.
2. Standard dilution water must have hardness requirements to generally reflect characteristics of the receiving water.
3. When receiving water is used for dilution, an additional control made up of standard laboratory dilution water (0% effluent) is required.

EPA NEW ENGLAND RECOMMENDED EFFLUENT TEST CONDITIONS FOR THE FATHEAD MINNOW (PIMEPHALES PROMELAS) LARVAL SURVIVAL AND GROWTH TEST¹

- | | |
|--|---|
| 1. Test type: | Static, renewal |
| 2. Temperature (°C): | 25 ± 1°C |
| 3. Light quality: | Ambient laboratory illumination |
| 4. Photoperiod: | 16 hr. light, 8 hr. dark |
| 5. Test chamber size: | 500 mL minimum |
| 6. Test solution volume: | Minimum 250 mL/replicate |
| 7. Renewal of test concentrations: | Daily using most recently collected sample. |
| 8. Age of test organisms: | Newly hatched larvae less than 24 hr. old |
| 9. No. larvae/test chamber and control: | 15 (minimum of 10) |
| 10. No. of replicate chambers/concentration: | 4 |
| 11. No. of larvae/concentration: | 60 (minimum of 40) |
| 12. Feeding regime: | Feed 0.1 g newly hatched, distilled water-rinsed <u>Artemia</u> nauplii at least 3 times daily at 4 hr. intervals or, as a minimum, 0.15 g twice daily, 6 hrs. between feedings (at the beginning of the work day prior to renewal, and at the end of the work day following renewal). Sufficient larvae are added to provide an excess. Larvae fish are not fed during the final 12 hr. of the test. |
| 13. Cleaning: | Siphon daily, immediately before test solution renewal. |
| 14. Aeration: | None, unless dissolved oxygen (D.O.) concentration falls below 4.0 mg/L. Rate should be less than 100 bubbles/min. |
| 15. Dilution water: ² | Receiving water, other surface water, |

synthetic soft water adjusted to the hardness and alkalinity of the receiving water (prepared using either Millipore Milli-Q^R or equivalent deionized and reagent grade chemicals according to EPA chronic toxicity test manual) or deionized water combined with mineral water to appropriate hardness.

- | | |
|---|---|
| 16. Effluent concentrations: ³ | 5 and a control. An additional dilution at the permitted effluent concentration (% effluent) is required if it is not included in the dilution series. |
| 17. Dilution factor: | ≥ 0.5 |
| 18. Test duration: | 7 days |
| 19. End points: | Survival and growth (weight) |
| 20. Test acceptability: | 80% or greater survival in controls: average dry weight per control larvae equals or exceeds 0.25 mg. |
| 21. Sampling requirements: | For on-site tests samples are collected and used within 24 hours of the time they are removed from the sampling device. For off-site tests a minimum of three samples are collected (i.e. days 1, 3, 5) and used for renewal (see Sec.IV). Off-site tests samples must be first used within 36 hours of collection. |
| 22. Sample volume required: | Minimum 2.5 liters/day |
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Footnotes:

1. Adapted from EPA/600/4-91/002.
2. Standard dilution water must have hardness requirements to generally reflect characteristics of the receiving water.
3. When receiving water is used for dilution, an additional control made up of standard laboratory or culture water (0% effluent) is required.

VI. CHEMICAL ANALYSIS

As part of each daily renewal procedure, pH, specific conductance, dissolved oxygen, and temperature must be measured at the beginning and end of each 24-hour period in each dilution and the controls. It is also recommended that total alkalinity and total hardness be measured in the control and highest effluent concentration on the Day 1, 3, and 5 samples. The following chemical analyses shall be performed for each sampling event.

Minimum Quantification	Parameter	Effluent	Diluent Level (mg/l)
	Hardness ^{*1}	x	0.5
	Alkalinity	x	2.0
	pH	x	--
	Specific Conductance	x	--
	Total Solids and Suspended Solids	x	--
	Ammonia	x	0.1
	Total Organic Carbon	x	0.5
	Total Residual Chlorine (TRC) ^{*2}	x	0.05
	Dissolved Oxygen	x	1.0
<u>Total Metals</u>			
	Cd	x	0.001
	Cr	x	0.005
	Pb	x	0.005
	Cu	x	0.0025
	Zn	x	0.0025
	Ni	x	0.004
	Al	x	0.02
	Mg, Ca	x	0.05

Superscripts:

^{*1} Method 2340 B (hardness by calculation) from APHA (1992) Standard Methods for the Examination of Water and Wastewater. 18th Edition.

^{*2} Total Residual Chlorine

Either of the following methods from the 18th Edition of the APHA Standard Methods for the Examination of Water and Wastewater must be used for these analyses:

- Method 4500-CL E Low Level Amperometric Titration (the preferred method);
- Method 4500-CL G DPD Colorimetric Method.

or use USEPA Manual of Methods Analysis of Water and Wastes, Method 330.5.

VII. TOXICITY TEST DATA ANALYSIS

LC50 Median Lethal Concentration (Determined at 48 Hours)

Methods of Estimation:

- Probit Method
- Spearman-Kärber
- Trimmed Spearman-Kärber
- Graphical

Reference the flow chart on page 84 or page 172 of EPA 600/4-91/002 for the appropriate method to use on a given data set.

Chronic No Observed Effects Concentration (C-NOEC)

Methods of Estimation:

- Dunnett's Procedure
- Bonferroni's T-Test
- Steel's Many-One Rank Test
- Wilcoxin Rank Sum Test

Reference the flow charts on pages 50, 83, 96, 172, and 176 of EPA 600/4-91/002 for the appropriate method to use on a given data set.

In the case of two tested concentrations causing adverse effects but an intermediate concentration not causing a statistically significant effect, report the C-NOEC as the lowest concentration where there is no observable effect. The definition of NOEC in the EPA Technical Support Document only applies to linear dose-response data.

VIII. TOXICITY TEST REPORTING

A report of results will include the following:

- Description of sample collection procedures, site description;
- Names of individuals collecting and transporting samples, times and dates of sample collection and analysis on chain-of-custody; and
- General description of tests: age of test organisms, origin, dates and results of standard toxicant tests; light and temperature regime; other information on test conditions if different than procedures recommended. Reference toxicant test data should be included.
- All chemical/physical data generated. (Include minimum detection levels and minimum quantification levels.)
- Raw data and bench sheets.
- Provide a description of dechlorination procedures (as applicable).
- Any other observations or test conditions affecting test outcome.

Attachment C
Best Management Practices Plan
NPDES Permit No. MA0003891
General Electric Company
Pittsfield, MA

BEST MANAGEMENT PRACTICES PLAN¹

A. DESCRIPTION OF BMP ACTIVITIES

1. Cleaning and Inspection of Existing Storm Sewer Components²

BMP 1.A - Debris Removal from Manholes and Catch Basins

- Initial inspection and removal of accumulated debris from all storm sewer manholes (MHs) and catch basins (CBs) in Drainage Basins 005, 006, and 007 (total of approx. 211 MHs and 121 Cbs).
- Quarterly inspections for one year of 10 to 15 “select” MHs and CBs in Drainage Basins 005 and 006. Removal of accumulated debris as needed (i.e., when observed debris thickness exceeds approximately 6 inches and prior to the catch basin exceeding 50% of the sediment storage capacity).³
- Annual inspection of select MHs and CBs in Drainage Basins 005 and 006 (debris removal as needed).
- Provide summary of completed inspection/cleaning activities in annual BMP report.

BMP 1.B - Debris Removal from Oil/Water Separators

- Removal of accumulated debris from OWSs 31W, 64W, 64X, 64Z, and 119W.
- Performance of annual inspection (including debris thickness measurements) of each active OWS.
- Removal of accumulated debris from OWSs every 2 years, or sooner if average thickness of debris observed during annual inspections exceeds 6 inches.
- Provide summary of completed inspection/cleaning activities in annual BMP report.

BMP 1.C - Pipeline Cleaning and Inspection

- For sections of piping within the 005/006 drainage basin where groundwater infiltration/inflow (I/I) is identified through the observation of dry weather flows attributable to I/I (if any), collect representative water samples for volatile organic compound (VOC) analysis prior to

any pipe cleaning activities. Following the identification of dry weather groundwater I/I flows, if any, and the subsequent cleaning or potential repair/rehabilitation of the subject piping, collect another round of water samples for VOC analysis for comparative purposes.

- Hydraulic pressure washing of the interior surfaces of approximately 6,500 linear feet (LF) of existing storm sewer piping to remove accumulated debris (Figure 1). ⁴
- Video inspection (following pipe washing) of approximately 3,200 LF of existing storm sewer piping to assess pipe integrity (Figure 1). ⁵
- Evaluate need for additional video inspections and/or additional BMPs based on the results of pipeline cleaning and inspection activities.

2. Enhancements to Oil/Water Separators

BMP 2.A - Short-Term OWS Enhancements

- Modify each OWS discharge from an underflow to overflow arrangement.
- Where feasible, increase the water storage volume and solids settling capabilities within each OWS through changes to the physical configuration (e.g., weir plates, baffles, etc.).
- Install (where feasible) continuous flow monitoring equipment at the OWS discharges (note – OWS 64W already has provisions for continuous discharge flow monitoring).
- Following completion of short-term enhancements described above, conduct sampling and analysis to assess “baseline” effectiveness of each OWS. For (3) different events (selected to represent various flow conditions within each OWS), collect influent and effluent samples from each OWS. Analyze samples for total PCBs (using modified Method 8082) and total suspended solids (TSS). Record OWS flow information and other pertinent operating conditions.

BMP 2.B - Longer-Term OWS-Related Activities

- Conduct a pilot study at OWS 64Z to evaluate potential for increased solids removal. Potential activities include addition of pre-treatment solids removal equipment, installation of additional structures within OWS to promote solids settling, etc.
- To assess potential effectiveness of above activities, conduct sampling and analysis of OWS 64Z flow during (3) different events (to represent various flow conditions). Collect influent and effluent samples with analysis for total PCBs (using modified Method 8082) and TSS. Record OWS flow information and other pertinent operating conditions.
- Where feasible, implement permanent improvements to solids settling capabilities at OWS

64Z. Also, evaluate potential improvements to OWSs 64W and 64X.

- Identify and evaluate potential measures to optimize stormwater management within Drainage Basins 005 and 006 through physical modifications related to the East Street Diversion Structure and existing OWS 64Z discharge/bypass piping network.

3. Physical Modifications to Drainage Basins

BMP 3.A - Abandon Outfall 004 and Related Piping

- With two exceptions (below), abandon existing storm sewer piping and related manholes and catch basins located in Drainage Basin 004.
- Retain the existing pipe sections traversing from the Outfall 004 discharge point, underneath Silver Lake Boulevard, and to first manhole within the GE facility for future use (by others) as a new outfall.
- Retain existing catch basin and piping used to convey runoff from parking area within GE facility to City of Pittsfield-owned storm sewer beneath East Street (and then to Outfall YD3).

BMP 3.B - Modify 60s Complex to Reduce Storm Water Runoff Bypasses

- As a supplement to future CD and Brownfields activities for this area, provide soil/vegetation cover over areas that would otherwise remain impervious (e.g., building floor slabs, paved areas, etc.). Design new surface cover to facilitate infiltration (by intentionally compromising the integrity of the impervious areas) and promoting sheetflow surface runoff (through surface grading and contouring).
- Modify, abandon, or replace existing storm sewer piping (including existing Sewer Relief Overflows SRO-2, SRO-3, and SRO-4) to extent feasible to reflect new drainage area conditions following building demolition, CD and BMP activities in the area.

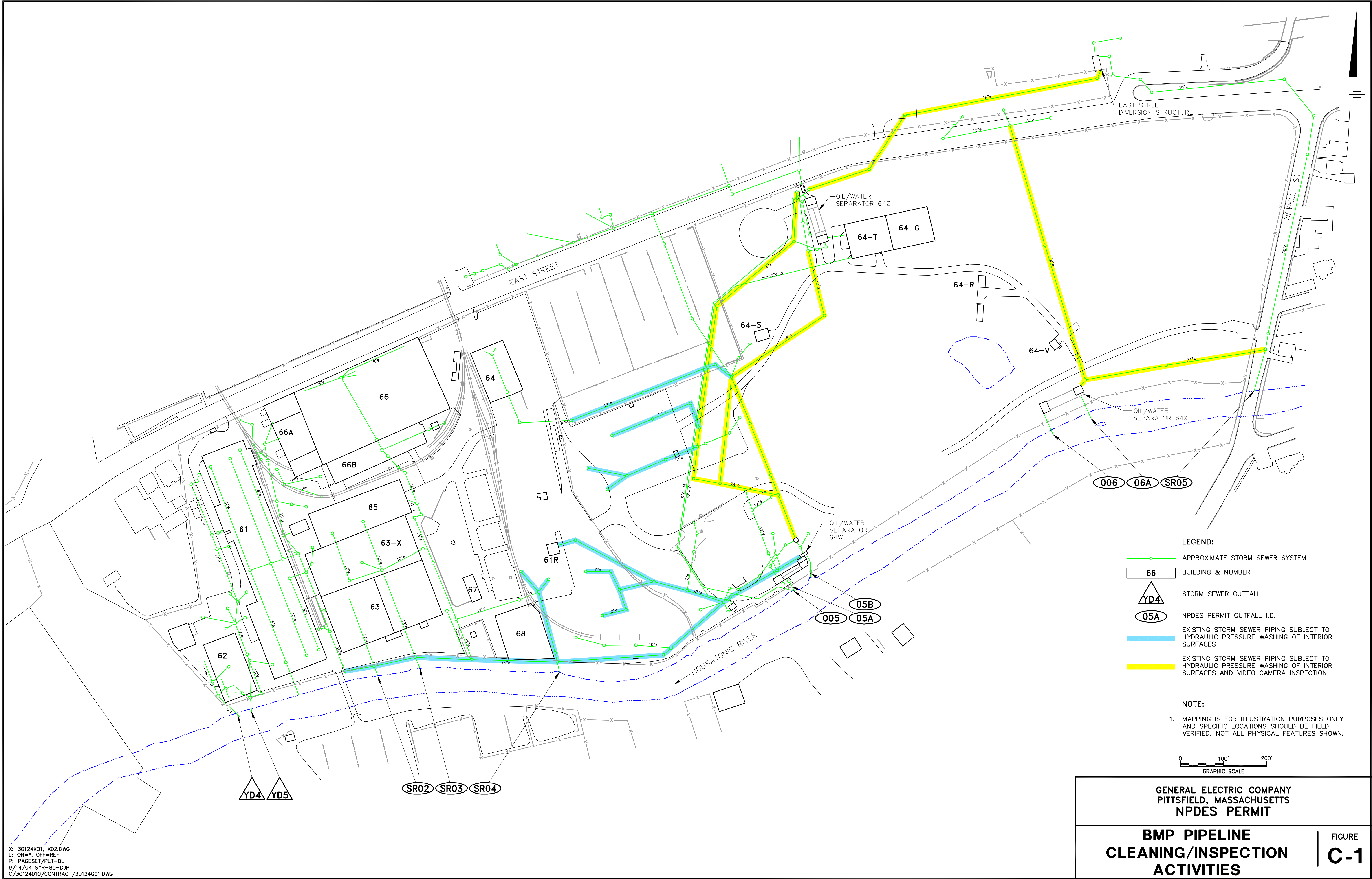
B. ANTICIPATED IMPLEMENTATION SCHEDULE

- Certain BMP activities will be completed within an approximate 4- to 6-month timeframe, including initial cleaning and assessment of manholes, catch basins, piping, and OWSs (i.e., BMPs 1.A, 1.B, 1.C); short-term physical modifications to OWSs (i.e., BMP 2A); and physical piping changes within Drainage Basin 004 (i.e., BMP 3A). The specific schedule for these activities is dependent on weather and flow conditions.
- The pilot study of OWS 64Z (part of BMP 2.B) will be performed following the completion of initial cleaning and assessment activities, and implementation of short-term enhancements. Once initiated, a minimum 6- to 9-month duration is anticipated, to ensure an adequate period of non-winter conditions.

- The specific scope and timing/schedule for the performance of remaining BMPs (i.e., remainder of BMP 2.B, and BMP 3.B) is uncertain and dependent on the results of the other BMPs and/or completion of various CD- and Brownfields-related activities, as well as EPA's use of certain areas within Drainage Basin 005. A preliminary timeframe of 2005 to 2007 is estimated.
- GE will prepare an annual BMP summary report for submittal to the Agencies. That report will describe all completed activities, and provide relevant information and data as appropriate. Other information (e.g., proposed additional BMPs, schedule updates, etc.) will also be provided in the annual summary. This summary is due on March 1 of each year following the effective date of the permit (see Part I.C.4. of permit)

Notes

1. In addition to the activities identified in this table, GE will continue to perform BMPs within the GE facility as identified in its *Stormwater Pollution Prevention Plan*.
2. Solid debris will be placed at GE's On-Plant Consolidation Area(s); water will be treated at GE's 64G Groundwater Treatment Facility (64G GWTF).
3. "Select" MHs and CBs subject to future inspections to be determined based on initial inspection and cleaning activities, as well as location within overall storm sewer network. Scope of future inspections may vary; for example, in response to results of annual inspections and/or ongoing CD and Brownfields activities.
4. Pipe sections subject to cleaning include piping that: was historically cleaned and/or sliplined; is located in potential PCB source areas (e.g., subsurface areas with non-aqueous phase liquids, elevated PCB concentrations in soil, etc.); is located in close proximity to existing discharge outfalls; or likely to remain active following CD and Brownfields activities. In addition, based on the results of the MH and CB cleaning and inspection activities (BMP 1.A), additional piping may be identified for hydraulic cleaning.
5. Initial pipe sections subject to video inspection, as shown on Figure 1, include piping that: was previously sliplined; is located in potential PCB source areas and the water table; and is likely to remain active following CD and Brownfields activities.



X: 30124X01, X02.DWG
L: ON=*, OFF=REF
P: PAGESET/PLT-DL
9/14/04 SYR-B5-DJP
C/30124010/CONTRACT/30124G01.DWG

Attachment D
Standard Operating Procedure for:
PCB Method 8082 and PCB Modified Method 8082
NPDES Permit No. MA0003891
General Electric Company
Pittsfield, MA

(PCB Method and Modification Specification will be attached here. The Methods and Specifications proposed by GE, which are currently being reviewed by EPA may be found at www.epa.gov/ne/ge)